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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/991,600	11/23/2001	Kazuhiko Hayashi	15113	7594

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EXAMINER

CARIASO, ALAN B

ART UNIT PAPER NUMBER

2875

DATE MAILED: 03/04/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

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Office Action Summary	Application No. 09/991,600	Applicant(s) HAYASHI ET AL.	
	Examiner Alan Cariaso	Art Unit 2875	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 20 November 2003.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) See Continuation Sheet is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 5,6,8,9,13-16,20-23,34-58,64,65,72,76-79,81-139,141 and 142 is/are allowed.
- 6) ☒ Claim(s) 67-70,144 and 145 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

Continuation of Disposition of Claims: Claims pending in the application are 5,6,8,9,13-16,20-23,34-58,64,65,67-70,72,76-79,81-139,141,142,144 and 145.

DETAILED ACTION

Response to Amendment

1. Receipt of applicant's amendment filed 20 November 2003 is acknowledged. Currently, claims 5,6,8,9,13-16,20-23,34-58,64,65,67-70,72,76-79,81-139,141,142,144 and 145 are pending.

Specification

2. The disclosure is objected to because of the following informalities: Page 30, line 26, the term "reflection" and on page 31, the term "reflected" as used in the phrase on lines 10 and 13 appear to be misdescriptive, regarding lights emitted at interfaces of layers. It is apparent from figures 23A and 23B, that there is no reflection, but refraction, occurring at interfaces between at least layers 46, 47 & 38.

Appropriate correction is required.

Claim Objections

3. Claim 67 is objected to because of the following informalities: Claim 67, line 4, the phrase that includes "(a) forming said" appears to be lacking a step limitation after "said" or at least missing any indication of a deletion. Appropriate correction is required.

Claim Rejections - 35 USC § 112

4. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

5. Claims 67-70, 144 and 145 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
6. On claim 67, line 5, claim 69, line 3, claim 144, line 2, and claim 145, line 3; "said end surface" (of said optical conductor) has no antecedent basis. Claims 68 and 70 are indefinite for depending on at least indefinite claim 67.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

8. As best interpreted and understood given the indefiniteness described above, claims 67 and 144 are rejected under 35 U.S.C. 102(b) as being anticipated by PARKER et al (US 5,618,096).
9. PARKER discloses a method of fabricating a lighting device (figs.1-15) including an electroluminescent device ("3" LEDs; col.4, lines 15-18) which acts as a light source, and an optical conductor (2 in fig.1; 7 in fig.2; 14 in fig. 3; 40 in fig.7; 60 in figs.10-11) which introduces a light emitted from the electroluminescent device (3) to a liquid crystal display device (col.6, lines 47-53), comprising the steps of forming (col.3, lines 1-13) a light-permeable expander (4 in fig.1; 6 in fig.2; 12 in fig.3; 43 in fig.7; 63 in figs.10-11) on an end surface (13 in fig.1; 18 in fig.2; 19 in fig.3) of the optical conductor (2 or 7 or 14),

the electroluminescent device (3) being formed (col.3, lines 48-67) on the light-permeable expander (4 or 6 or 12 or 43 or 63); the step of forming (col.3, lines 21-25 and lines 36-47) a reflector covering (10 or 15) the end surface (6, 15, 18 or 19) of the optical conductor (2 or 7 or 14) to prevent a light, having been introduced into said optical conductor from said electroluminescence device (3) from leaking out of the end surface of the optical conductor; .

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

11. Claims 68 and 70 are rejected under 35 U.S.C. 103(a) as being unpatentable over PARKER et al (US 5,618,096) in view of REDMOND et al (US 5,664,862).

12. PARKER does not disclose the light-permeable expander formed by injection molding and by ink-jet injection. REDMOND teaches a light guide (32) formed by injection molding (col.3, lines 43-44) for the purpose of forming a light guide (32) made of light transmissive plastic material that introduces light from an embedded lamp (diode 47) into an adjacent light guide panel (13, fig.1). PARKER teaches a method of ink-jet application of optical appendages (21, col.4, lines 46-61) to light guide panel member (2,20) for the purpose of forming integral deformities on the light panel member that modify the direction of light in the panel member.

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13. It would have been obvious to one having ordinary skill in the art at the time the invention was made to provide the light-permeable expander integral with the light guide plate or panel device of PARKER et al formed by injection molding and ink-jet application as taught by REDMOND et al and PARKER et al, respectively, in order to form an optical transparent medium or material that direct light within light panels from light source(s) by such well-known common methods.

14. Claim 145 is rejected under 35 U.S.C. 103(a) as being unpatentable over PARKER et al (US 5,618,096) in view of TIAO et al (US 6,254,246).

15. PARKER does not disclose the step of tapering the optical conductor at least one of upper and lower surfaces adjacent to the end surface. TIAO teaches the use of a tapered optical conductor (310-fig.4) that include tapering of at least one of the main surfaces (312,314) adjacent the end surface (312) associated with the electroluminescent light sources (LEDs or EL; col.3, lines 7-11) for the purpose of internally reflecting incident light within the optical conductor (col.4, lines 47-61) reducing light loss from illuminating the display. It would have been obvious to one having ordinary skill in the art at the time the invention was made to modify the lighting device of PARKER to include the type of tapered or inherent forming step of tapering the optical conductor as taught by TIAO et al in order to internally reflect incident light from the EL light source reducing light loss of incident light that would illuminate the display.

Allowable Subject Matter

16. Claims 5, 6, 8, 9, 13-16, 20-23, 34-58, 64, 65, 72, 76-79, 81-139, 141 and 142 are allowed.

17. Claim 69 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Response to Arguments

18. Amended independent claim 142 is now allowed since they incorporate subject matter indicated to be allowable, and therefore its amended dependent claim 141 is also allowable. Currently, independent claims 5, 6, 8, 13, 34, 65, 72, 77 and 142 are allowed along with their corresponding dependent claims 9, 14-16, 20-23, 35-58, 64, 76, 78, 79, 81-139 and 141.

19. However, claims 67-70, 144 and 145, as presented, are rejected as indicated in detail above. In addition, there are new objections regarding minor informalities in the specification and in claim 67 that should be corrected as indicated above.

20. In response to applicant's argument that "the intended purpose of the light-permeable expander recited by claim 67 is to expand the angle of the light ... that it is inherent that the transmission of light within the optical fiber (of TOKUNAGA) is intended to occur *without expansion*", a recitation of the intended use of the claimed invention must result in a structural difference between the claimed invention and the prior art in order to patentably distinguish the claimed invention from the prior art. If the

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prior art structure is capable of performing the intended use, then it meets the claim. In a claim drawn to a process of making, the intended use must result in a manipulative difference as compared to the prior art. See *In re Casey*, 152 USPQ 235 (CCPA 1967) and *In re Otto*, 136 USPQ 458, 459 (CCPA 1963).

21. However, in light of applicant's arguments regarding at least claim 67 originally rejected by TOKUNAGA, regarding the light-permeable expander, this rejection has been withdrawn and replaced with a new ground of rejection using PARKER et al (US 5,618,096). PARKER discloses appended or integral transition areas which meet the claimed light-permeable expander, and further includes a teaching of directing light at an angle (col.3, lines 1-13) into the light emitting panel and expanding light (see figs.10 & 13) by use of curved surfaces of the transition area(s) adjacent the electroluminescent light source(s) (3).

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alan Cariaso whose telephone number is (571) 272-2366. The examiner can normally be reached on 9-5:30 M-F.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Sandra O'Shea can be reached on (571) 272-2378. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).



Alan Cariaso
Primary Examiner
Art Unit 2875

AC
February 24, 2004